Air Warrior Microclimate Cooling Garment

Overview:

The **Air Warrior Microclimate Cooling Garment (MCG)** was developed by the U.S. Army Natick Soldier Center (NSC) to interface with the Air Warrior Microclimate Cooling Unit (MCU) used onboard U.S. Army rotary wing aircraft. The MCG is a lightweight, comfortable, breathable, tube type undergarment worn against the skin. When interfaced with the aircraft mounted MCU, it provides the means to circulate a coolant fluid to the torso of the body to remove metabolic heat from aircrew conducting operations in heat stress environments.

Human studies conducted in a flight simulator have demonstrated the ability of the system to increase aircrew mission duration from 1.6 hours to more than 5 hours in a 100°F environment, while wearing MOPP4 protective clothing.

The Air Warrior Cooling Garment is currently being procured by the Product Manager-Air Warrior. First Unit Equipped was in 2004.

The Air Warrior MCG is also being evaluated through the Cool the Force effort in conjunction with TARDEC to provide cooling capability to Soldiers in HMMWVs in Iraq.

Features:

- Based on NSC patented laminating technology that captures coolant tubes between two layers of 100% cotton fabric
- Available in three sizes, to fit 90% of the U.S. Army male and female population
- Capable of removing 180 watts of body heat from the torso when the fluid is delivered at a temperature of 65°F and a flow rate of 12 gph
- Weight with fluid: 2 pounds
- The Liquid Quick Disconnect (L-QDC) provides a hands-free breakaway capability for emergency egress
- Low pressure drop
- Machine launderable

Detail of L-QDC

Point of Contact:

Individual Protection Liaison

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